1   NEW CLAIM 7

2   Claim 7 has been added to point out that the projected annotation is not intended to be a

3   precise counterpart to the annotation being projected.

4   The steps of snapping a projected vertex to a surface vertex or line or leaving it in its

5   projected location when the point of projection is too far from the nearest vertex or line

6   results in a distorted projected line that is not a precise representation of the annotation

7   line.

8   Support for claim 7 is found on page 11, lines 1 - 15 of the specification.

9   This method is consistent with the invention, which drapes an annotation in a manner

10   that appears to be a smooth line, but is not constrained by strict mathematical relations

11   and does not require extensive computations.

12   Further, this claim is taught away from by the references cited so far, in that the

13   examiner has repeatedly asserted that the motive for combining the references is to

14   produce a precisely located line on the model surface. When the end point of a

15   projected line is snapped to a vertex or line, the projected line is distorted from the

16   location of a precise and accurate projection.

17   CLAIM REJECTIONS 35 USC 103

1   The rejection of claims 1, 3, 5 - 6 under 35 USC 103 is respectfully traversed.

2   Paragraph 13.1 of the Final Rejection Mailed 10/21/2004

3   <u>The Combination Suggested Does Not Meet the Claims</u>

4   With respect to claim 5, Applicants agree that Rose (RO) shows the annotation of a
5   computer model with text labels or texture.

6   <u>The Examiner Has Made a Misstatement of Fact With Respect to the Krishnamurthy</u>
7   <u>and the Karasaki Reference</u>

8   The Krishnamurthy (KR) reference does not show the projection of an annotation on to
9   a mesh. The cited passage in CL 7, L39 - 45 refers to the preceding paragraph (CL7,
10   L28-38) in which the start and end points are "two user points" (CL7, L32) that were
11   manually selected by the user. Thus, the example cited is not the projection of an
12   annotation, but the smoothing (CL7, L 49) of a line selected by the user.

13   This is explicitly specified in (CL6, L60-61) and (CL7, L1-2) where KR states that the
14   user paints the curves directly.

15   The two-step process described with respect to Figs 3B and 3C (CL7, L49 - 54) does not
16   meet the requirements of all the independent claims that the process use a cutting plane
17   to define the intermediate points between the two projected vertices, as the Examiner
18   has maintained in the first full paragraph of page 9 of the final action.

1   Thus, the combination of RO and KR does not meet any of the independent claims.

2   The addition of the Karasaki (KA) reference does not add anything to the examiner's
3   argument. The KA reference also does not show the projection of an annotation on to a
4   model.

5   The examiner has stated on page 9, ninth line from the bottom, that:
6   "It would have been obvious - - - - that included means for selecting a cutting plane
7   between a pair of the projected vertices, in which the cutting plane was selected by the
8   pair of projected vertices and a midpoint of the relevant annotation edge."

9   The quoted language is a misstatement of fact. The KA reference does not show what
10   the examiner has asserted that it does. The reference does indeed show a method of
11   computing the length of a line on the model surface, but it does NOT result from the
12   projection of an annotation line on the surface.

13   Thus, since neither of the references cited by the examiner shows the projection of an
14   annotation line on the surface of the model, the combination of RO with KR and/or KA
15   does not meet or suggest any of the independent claims.

16   <u>The Combination of References is Not Proper</u>

17   In parallel with the previous argument, the rejection of claims 1 - 6 under 35 USC 103
18   is respectfully traversed on the grounds that the combination of references suggested by
19   the examiner is not proper..

1   It is settled that references may not be combined if they are inconsistent - i.e. the

2   implementation of one reference would interfere with the implementation or objectives

3   of another reference.

4   Accordingly, Applicants maintain that it is not proper to make the combination cited by

5   the examiner.

6   The Rose (RO) reference teaches annotating in the sense of displaying a text label on a

7   video image. Figure 3.1 of RO shows a video camera that records an image that is

8   annotated with text labels and displayed according to RO's method, which may include a

9   computer model that is to be annotated.

10   The teaching of RO is that of placing labels on an existing computer model, not in

11   drawing a surface curve or calculating a path length.

12   The KA reference teaches a computationally intensive method of calculating accurately

13   the length along a surface of a human figure (which is known to be much harder to

14   represent than a plane, cylinder or other simple geometric shape). The examiner's

15   attention is called to the equations in columns 22, 23 and 24, showing functions for

16   calculating derivatives and for converting to spherical coordinates that clearly require

17   much computation.

18   The examiner has argued that: "The artisan would be motivated [to combine Rose with

19   other references] because that would allow to precisely position these curves relative to

20   surface geometry for effective curve drawing and comprise a graph path between the

21   start point and end point using a sequence of connected vertices of the mesh."

1   The examiner is required, in order to make a prima facie case, to establish that:

2   1) the artisan would be motivated to combine the text labels of RO with a curve, and

3   2) the artisan would be motivated to establish an annotation containing a curve and to

4   project the annotation by the method required by the claims.

5   Applicants attorney has not been able to find: 1) any suggestion in RO that a curve

6   should be combined with the text; or 2) any suggestion in KA or KR that text should be

7   combined with a curve.

8   The examiner has not made any attempt to establish the two necessary points in the

9   preceding paragraph. He has simply copied his statement that: "The artisan would be

10 motivated because that would allow a surface curve to be constructed that passed

11 through the projected points" The examiner has made no attempt to establish that the

12 artisan would want to combine such a curve with the text labels of RO.

13 Applicants disagree with the examiner's opinion and firmly maintain that the artisan

14 would not be motivated to waste computational resources in calculating a path length

15 that has no value for the primary reference.

16 Since RO is concerned only with annotating a computer model, the examiner must

17 supply a motive or suggestion to make his combination; i.e. a reason why there is

18 benefit to RO to calculate precise locations of a path length on the surface.

19 Applicants accordingly maintain that the combination suggested by the examiner is not

20 proper because performing an extensive calculation of path length and location wastes

21 computation resources and provides no benefit to the primary reference.

1   With respect to the Kung reference, Applicants point out that KU starts with raw data

2   from a scanning operation and generates a 2-D view in the process clearing up false

3   lines in his 3-D model. The examiner has argued on page 17 of the office action that

4   Kung cuts the surface of the model with a plane, but he does not project an annotaiton

5   line or vertices to do it. Applicants readily agree that cutting a mesh model with a plane

6   is known. In this case, Kung is constructing the model, not annotating the model.

7   Thus, applying KU to RO is not proper because RO already has a computer model.

8   Further, the KA reference is inconsistent with the claims, in that the claims require that

9   the vertices of the annotation edge are projected onto the model surface, while KA

10   specifies the opposite - the vertices of the model surface are projected on the standard

11   plate CL 25, L 42 - 45. The examiner has cited a passage in the same column (CL 25,

12   L35 - 40) that refers to a subsequent step - after the vertices have been established,

13   points in between are projected from the standard plate to the model surface.
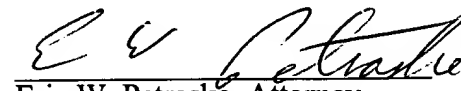
14   In summary, the claims address a method that is a collection of steps (as are all

15   methods), some of which are known in various forms. Applicants readily agree that

16   wire mesh models and cutting planes were known.

17   Applicants maintain that the claims, taken as a whole, are non-obvious and that it is not

18   proper to reject the claims on selected portions of other references that are not

19   addressing the same problem and would not be consulted by a worker in the field trying

20   to construct a computationally economical method of mapping an annotation line to a

21   surface.

1   For the foregoing reasons, allowance of the claims is respectfully solicited.

2   Respectfully submitted,
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